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REMARKS**I. Status of the Claims**

Claims 1-12, 16-19 and 23-30 were previously pending in this application. Claim 25 has been canceled, and claims 1, 23 and 26 have been amended herein. Illustrative support for the presented amendments may be found throughout the specification, claims and figures as originally filed, for example, at Paragraph Nos. [0034], [0036], [0051], [0053], [0058], FIG. 2 and FIG. 5 of corresponding U.S. Patent Application Publication No. 2004/0100860. After entry of the above amendments, claims 1-12, 16-19, 23-24 and 26-30 will be pending for examination, with claims 1, 7 and 23 being in independent form. No new matter has been added.

II. Claims 7-10 are Patentable Over Taguchi

Applicant respectfully traverses the rejection of claims 7-10 under § 103(a) as being unpatentable over Taguchi et al. (U.S. 5,476,320) (hereinafter "Taguchi").

As detailed in a previous response, Taguchi is directed to a developer preparing apparatus and method in which an undiluted tetramethylanilmonium hydroxide (TMAH) developer solution is diluted with pure water in a mixing bath to a definite content of about 2.4% by weight. (See Taguchi at col. 1, lines 27-33; col. 2, lines 13-52; Examples.) In Taguchi, both components are simultaneously delivered to an inline mixer prior to delivery to the mixing bath. The mixture of the undiluted developer solution and the pure water is therefore supplied to the mixing bath according to a predetermined ratio. An ultrasonic densitometer is then used to measure the content of the developer component contained in the developer solution in the mixing bath. An output signal of the ultrasonic densitometer is used to control the supplying flow rate of the undiluted developer solution and/or the pure water into the mixing bath based on deviations between the measured content and the desired content. (See Taguchi at col. 3, lines 30-32; col. 3, line 61 to col. 4, line 6.) A prepared developer solution with the desired definite content is sent to a storage tank for subsequent use. (See Taguchi at col. 4, lines 19-23.)

Taguchi fails to disclose, teach, or suggest a method of blending at least two materials to a desired concentration comprising providing a first material in bulk to a blend chamber and providing, subsequent to the act of providing the first material in bulk, a flow of a second material to the blend chamber through a second inlet, as presently recited in independent claim 7. Instead, Taguchi provides a mixture of undiluted developer solution and pure water to the mixing bath according to a predetermined ratio, and then subsequently provides an adjustable flow of

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either or both components based on deviations between measured and desired contents. Unlike the present invention in which a first component is added in bulk before flow of a second component is initiated and adjusted to achieve a desired concentration, Taguchi teaches simultaneously delivering both components to an inline mixer before providing the mixture to the mixing bath, and manipulating flow rates of either or both components to the mixture in order to reach a desired content.

Thus, contrary to what is asserted in the Office Action, the fundamental differences in operation between the presently disclosed blend sequence and that of Taguchi do not simply involve "changes in sequence of adding ingredients." In the presently disclosed blend sequence as recited in independent claim 7, first material is not added apart from an initial bulk supply (except in the failsafe subroutine involving partial drainage of the blend chamber), while the Taguchi blend sequence routinely provides additional first material (without drainage) whenever the measured content exceeds the desired content. As noted in the instant specification, "[a]s compared with other styles of systems, rates as much as twice the current, published process are achieved" by Applicant's blend routine. (See Applicant's specification at [0037].)

Taguchi fails to teach providing a first material in bulk to a blend chamber and providing, subsequent to the act of providing a first material in bulk, a flow of a second material to the blend chamber through a second inlet, as presently recited in independent claim 7. Thus, independent claim 7, and each of claims 8-10 which depend therefrom, is patentable over Taguchi.

Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

III. Claims 1-6, 11-12, 16-19 and 23-30 are Patentable over Taguchi in Combination with Wilmer

Applicant respectfully traverses the rejection of claims 1-6, 11-12, 16-19 and 23-30 under § 103(a) as being unpatentable over Taguchi in view of Wilmer et al. (U.S. Patent Application No. 2002/0048213) (hereinafter "Wilmer").

Taguchi has been discussed in detail above. Taguchi fails to disclose, teach or suggest a system comprising a controller configured to generate a control signal to a first valve to fill a blend chamber to a predetermined volume with a first material at a first inlet, a control signal to a second valve, responsive to the blend chamber achieving the predetermined volume, to control the amount of a second material received at a second inlet to achieve a desired concentration of

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the second material in a mixture, and a control signal, responsive to a detected amount of the second material in the mixture being greater than the desired concentration, to dispense a portion of the mixture out a drain port, as presently recited in amended independent claim 1. Again, Taguchi teaches simultaneously delivering both components to an inline mixer before providing the mixture to the mixing bath, and manipulating flow rates of either or both components to the mixture without drainage in order to reach a desired content. In contrast to Taguchi, in one aspect of the present invention a control signal responds to the presence of a predetermined volume of the first material in the blend chamber to control the amount of the second material received at the second inlet of the blend chamber. Also in contrast to Taguchi, in one embodiment of the invention, a control signal responds to a detected amount of the second material in the mixture being greater than the desired concentration to dispense only a portion of the mixture out of a drain port.

Similarly, Taguchi fails to discuss a method comprising providing a first material in bulk to a blend chamber and subsequently providing a flow of a second material to the blend chamber as recited in claims 11 and 12 as they depend from independent claim 7.

With respect to amended independent claim 23, Taguchi fails to disclose, teach or suggest a system comprising means for draining a portion of an out of specification mixture from a blend chamber upon a determination that a detected concentration of a second component is out of specification, and means for correcting a remaining portion of the out of specification mixture in the blend chamber. As discussed above, only a prepared developer solution with a desired definite content exits the mixing vessel taught by Taguchi. Taguchi addresses deviations between the measured content and the desired content simply by adjusting flow rates of the undiluted solution and/or the pure water to the mixing bath. In contrast to Taguchi, in one aspect of the invention the system comprises means for draining a portion of the out of specification mixture and means for correcting a remaining portion of the out of specification mixture. Because Taguchi never drains a portion of an out of specification mixture, Taguchi cannot correct a remaining portion of the out of specification mixer in the blend chamber as presently recited.

The lack of any proper motivation to combine the batch system of Taguchi with the continuous mixing system of Wilmer has been extensively addressed in previous responses. Even if the citations could be combined, the above-noted deficiencies in Taguchi are not cured by Wilmer. As previously discussed, Wilmer is directed to a method and apparatus for blending

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and supplying process materials, particularly ultra-high purity chemicals, abrasive slurries and the like. (See Wilmer at [0003].) Process materials from material supply lines 18 may continuously pass into static mixer 22 for mixing. (See Wilmer at [0068].) Instruments, such as a densitometer, may be positioned upstream of the static mixer to assure acceptable material is being transmitted to the static mixer 22. (See Wilmer at [0040].) The blend of process materials may be supplied on a continuous basis, without interruption. (See Wilmer at [0034].) Drain 95, positioned downstream of static mixer 22, may be used for disposal when a blend of process material is unacceptable or unneeded. (See Wilmer at [0080].)

The continuous mix and dispense system of Wilmer fails to disclose, teach or suggest a system comprising a controller configured to generate a control signal to a first valve to fill a blend chamber to a predetermined volume with a first material at a first inlet, a control signal to a second valve, responsive to the blend chamber achieving the predetermined volume, to control the amount of a second material received at a second inlet to achieve a desired concentration of the second material in a mixture, and a control signal, responsive to a detected amount of the second material in the mixture being greater than the desired concentration, to dispense a portion of the mixture out a drain port, as presently recited in amended independent claim 1. Because the static mixer in the continuous mix and dispense system of Wilmer has no appreciable holding volume, all of any out of specification blend in Wilmer is completely diverted to a drain.

Wilmer fails to disclose, teach or suggest providing a first material in bulk to a blend chamber and providing, subsequent to the act of providing the first material in bulk, a flow of a second material to the blend chamber through a second inlet, as presently recited in claims 11 and 12 as they depend from independent claim 7.

With respect to amended independent claim 23, Wilmer also fails to disclose, teach or suggest a system comprising means for draining a portion of an out of specification mixture from a blend chamber upon a determination that a detected concentration of a second component is out of specification, and means for correcting a remaining portion of the out of specification mixture in the blend chamber. As noted above, all out of specification blend in Wilmer is completely diverted to drain. In contrast to both Taguchi and Wilmer, in at least one embodiment, for example, the presently recited system may remove a portion of an out of specification mixture, such as approximately 10-15% of the initial chemical batch over the course of a number of seconds, and correct the remainder in the blend chamber. (See Applicant's specification at [0058].) By draining only a portion of out of specification mixture,

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one aspect of the present invention reduces material waste and the costs associated with replacing and or disposing of the out of specification mixture. In contrast, mixture in mixer 22 of Wilmer cannot be further adjusted if it is out of specification because it continuously exits the mixer, and must be diverted to drain. Wilmer can adjust the input of materials so that the blend leaving mixer 22 eventually changes, but only after sufficient time has passed for the input to pass to the outlet under continuous operating conditions.

Wilmer discloses a continuous mix and dispense process that cannot cure deficiencies in Taguchi. Thus, each of claims 1-6, 11-12, 16-19, 23-24 and 26-30 is patentable over Taguchi and Wilmer, either alone or in combination. Claim 25 has been canceled herein without prejudice or disclaimer, and therefore the rejection is moot with respect to this claim.

Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

IV. Conclusion

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is invited to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,
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